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EXAMINER

ABRAHAM, TANIA

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,961	<b>Applicant(s)</b> TAOKA ET AL.	
	<b>Examiner</b> Tania Abraham	<b>Art Unit</b> 3636	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### ***Allowable Subject Matter***

Upon further consideration, the indicated allowability of claims 5 and 6 is withdrawn. Rejections based on the Masuda et al, Takada, and Ushijima references follow.

### ***Claim Objections***

Claim 5 is objected to because the term --comprising-- should be inserted after "car seat" in line 1. Appropriate correction is required.

Claim 6 is objected to because the limitation "the letter J of the support member", in line 7, is a confusing way of referring to the member's shape; rather, the claim should recite --the J-shaped extension of the support member--. Also, the claim should recite --a front end-- instead of "the front end", in line 7; and --the engagement portion-- instead of "an engagement portion", in line 8. Appropriate correction is required.

Claim 8 is objected to because, as in claim 6, this claim should recite the limitation --the J-form-- instead of "the letter J". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the inertial mass part" in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation "the pivot shaft" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the inertial mass part" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the pivot shaft" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the inertial mass part" in line 3. There is insufficient antecedent basis for this limitation in the claim.

\*In light of the rejections above, the claims will be further treated on the merits *as best understood*.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Taoka et al (WO02/066285). Re claim 1, with reference to figures 10-12, Taoka et al disclose a car seat comprising: a catching part (14) being disposed in a front part inside a seat cushion, said catching part extending in a widthwise direction of the seat cushion and arranged so as to be movable up and down; and an inertial force application mechanism (31) that is activated by an inertial force experienced via the seat occupant at a time of rapid deceleration operable to move the catching part upward.

Re claim 4, with reference to figure 12, Taoka et al disclose a locking mechanism (18) operable for stopping downward movement of the catching part (14) that is moved upward by the inertial force during the rapid deceleration.

Re claim 10, with reference to figure 10, Taoka et al disclose said catching part (14) includes a pipe material having a circular cross-section.

Claims 1, 4 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Masuda et al (JP 2000-001136). Re claim 1, with reference to figure 2, Masuda et al discloses a car seat comprising: a catching part (6) being disposed in a front part inside a seat cushion, said catching part extending in a widthwise direction of the seat cushion and arranged so as to be movable up and down; and an inertial force application mechanism (7, 9) that is activated by an inertial force detected by a collision sensor (not illustrated) at a time of rapid deceleration operable to move the catching part upward.

Art Unit: 3636

Re claim 4, with reference to figure 5, Masuda et al discloses a locking mechanism (20, 21) operable for stopping downward movement of the catching part (6) that is moved upward by the inertial force during the rapid deceleration.

Re claim 10, with reference to figure 10, Masuda et al disclose said catching part (6) includes a pipe material having a circular cross-section.

Claims 1, 4 and 10 are rejected under 35 U.S.C. 102(a) as being anticipated by Ushijima (JP 2004-009997). Re claim 1, with reference to figure 3a-b, Ushijima discloses a car seat comprising: a catching part (7) being disposed in a front part inside a seat cushion (5), said catching part extending in a widthwise direction of the seat cushion and arranged so as to be movable up and down; and an inertial force application mechanism (10) that is activated by an inertial force detected by a collision sensor (not illustrated) at a time of rapid deceleration operable to move the catching part upward.

Re claim 4, with reference to figure 5, Ushijima discloses a locking mechanism (11, 12) operable for stopping downward movement of the catching part (7) that is moved upward by the inertial force during the rapid deceleration.

Re claim 10, with reference to figure 10, Ushijima disclose said catching part (7) includes a pipe material having a circular cross-section.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taoka et al in view of Takada (US 4225178). Re claim 2, with reference to figure 8, Taoka et al teach the catching part (14) is supported by a reinforcing member 24a/b inside the seat cushion such that it is swingable up and down around a pivot shaft 9b, and an inertial force application mechanism (31) generally formed as a pivotable plate; but they fail to teach an inertial mass part coupled to the catching part. Takada shows a catching part formed in a forward portion of a seat plate 5, a pivot shaft 7, and an inertial mass part 12 coupled to and forward of the catching part 5 via a coupling part 9. Takada also shows a locking means located on the coupling part 9. Takada shows that it was old and well-known in the art at the time of invention to use an inertial mass part connected to a catching part by a ratchet and pawl coupling device for activating a

Art Unit: 3636

forward end of a seat during sudden deceleration to prevent an occupant from “submarining”. So it would have been obvious to one of ordinary skill in the art at the time of invention to modify Taoka et al’s car seat with an inertial mass part coupled to the catching part, as taught by Takada, in order to improve Taoka et al’s device with a conventional yet effective means of activating a “submarining” prevention device. Thus, the car seat of Taoka et al as modified by Takada would have: the catching part supported by a reinforcing member inside the seat cushion such that it is swingable up and down around a pivot shaft on a rear side of a vehicle relative to the pivot shaft; and the inertial force application mechanism including an inertial mass part, arranged forward of the catching part and the pivot shaft and above the pivot shaft, and a coupling part for connecting the inertial mass part and the catching part.

Re claim 3, Taoka et al shows a support spring member in Figure 8, but does not show or suggest coupling the catching part to the spring member with an elastic member. However, the coupling to the spring member is considered a matter of design choice since it appears that the apparatus would perform equally as well without being coupled to the seat’s spring member.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al (JP 2000-001136) in view of Takada (US 4225178). Re claim 5, with reference to figures 1 and 5, Masuda et al teach a car seat comprising: a catching part (6) being disposed in a front part inside a seat cushion, said catching part extending in a widthwise direction of the seat cushion and arranged so as to be movable up and down;



Art Unit: 3636

inertial force application means (7, 9) for moving the catching part upward when activated by an inertial force detected by a sensor at a time of rapid deceleration; and locking means (21, 22) for stopping downward movement of the catching part that is moved upward by the inertial force during said rapid deceleration; wherein the locking means includes a locking member (21) that is always kept in contact with a support member (3) with biasing means (22), the support member coupling and supporting the catching part and the inertial force application means with each other; and wherein the locking means further includes an engagement portion (20) formed to the support member to be engaged with the locking member when the catching part moves more than a predetermined distance. Masuda et al fail to teach the inertial application means includes an inertial mass part. With reference to figures 1 and 2, Takada teaches a car seat comprising: a catching part (5) disposed in a front part of a seat cushion and extending along its width, and arranged to move up and down via rear pivot device (7); an inertial force application means comprising an inertial mass part (12) for swinging a support member upward and therefore capable of swinging a catching part upward; and a locking means for stopping downward movement of the catching part (5) that includes a locking member (11) that engages an engagement portion formed on a front side of a support member (9); wherein the support member (9) couples the catching part (5) to the inertial mass part (12). Masuda et al teach the support member (3) has a vertically extending arm (3b) which pivots about a pin (5) at its upper end, and is connected to the inertia application means at its lower end; wherein upon pivoting, the support member (3) includes a forwardly-located engagement portion (20) which serves to lock the

Art Unit: 3636

catching part (6) in place. Similarly, Takada teaches the support member (9) is a vertically extending arm which pivots about a pin (10) at its upper end, and is connected to the inertia application means (12) at its lower end; wherein upon pivoting, the support member (3) includes a forwardly-located engagement portion which serves to lock the catching part (5) in place. So it would have been obvious to a person of ordinary skill in the art at the time of invention to modify the car seat of Masuda et al with an inertial mass part connected to the support member, as taught by Takada, in order to minimize the number of parts of the inertia application means while still yielding the expected results of providing an effective means of moving the catching part. Thus, the car seat of Masuda et al as modified by Takada would have the support member coupling and supporting the catching part and the inertial mass part with each other.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al and Takada as applied to claim 5 above, and further in view of Ushijima (JP 2004-009997). Masuda et al and Takada teach structure claimed, as described above, wherein: the support member (3) has two extensions (3a, 3b) from the pivot shaft (5) toward the catching part side and the inertial mass part side respectively; the locking member (21) is arranged on a front side of the vehicle relative to the support member; and a curved portion at a front end of the element (20) of the support member (3) forms the engagement portion to be engaged with the locking member. But they fail to teach their support member having the extension, toward the inertial mass part side, shaped like the letter "J". However, Ushijima teaches a car seat comprising a catching part (7) that is coupled to a J-shaped support member (11); wherein, similar to the structure and

Art Unit: 3636

function of the seats of Masuda et al and Takada, the support member (11) pivots about a pin shaft to move the catching part (7) upward in the event of a collision, and includes a curved end having an engagement portion which engages a locking member (12) to prevent the catching part from dropping. So it would have been obvious to one of ordinary skill in the art at the time of invention to modify the seat of Masuda et al and Takada to have the extension of the support member, between the pivot point and the inertial application means, shaped like as a "J" with the engagement portion at its curved end as a simpler alternative which comprises less parts while still yielding the predictable result of moving and locking the catching part in the event of a collision. Thus, the seat of Masuda et al and Takada as modified by Ushijima would have the support member with an extension toward the inertial mass part side that is substantially J-shaped when viewed from one side of the vehicle, and has a curved portion at a front end of the "J" shape of the extension that forms an engagement portion to be engaged with the locking member.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al in view of Takada. With reference to figures 2 and 5, Masuda et al teach the locking mechanism includes: a locking member (21) that is maintained in biased contact with a support member (3), the support member coupling and supporting the catching part (6) and the inertial application means (7, 9) with each other; and an engagement portion (20) formed to the support member to be engaged with the locking member when the catching part moves more than a predetermined distance. But they fail to

Art Unit: 3636

teach the car seat includes an inertial mass part. With reference to figures 1 and 2, Takada teaches a car seat comprising: a catching part (5) disposed in a front part of a seat cushion and extending along its width, and arranged to move up and down via rear pivot device (7); an inertial force application means comprising an inertial mass part (12) for swinging a support member upward and therefore capable of swinging a catching part upward; and a locking means for stopping downward movement of the catching part (5) that includes a locking member (11) that engages an engagement portion formed on a front side of a support member (9); wherein the support member (9) couples the catching part (5) to the inertial mass part (12). Masuda et al teach the support member (3) has a vertically extending arm (3b) which pivots about a pin (5) at its upper end, and is connected to the inertia application means at its lower end; wherein upon pivoting, the support member (3) includes a forwardly-located engagement portion (20) which serves to lock the catching part (6) in place. Similarly, Takada teaches the support member (9) is a vertically extending arm which pivots about a pin (10) at its upper end, and is connected to the inertia application means (12) at its lower end; wherein upon pivoting, the support member (3) includes a forwardly-located engagement portion which serves to lock the catching part (5) in place. So it would have been obvious to a person of ordinary skill in the art at the time of invention to modify the car seat of Masuda et al with an inertial mass part connected to the support member, as taught by Takada, in order to minimize the number of parts of the inertia application means while still yielding the expected results of providing an effective means of moving the catching part. Thus, the car seat of Masuda et al as modified by

Art Unit: 3636

Takada would have the support member coupling and supporting the catching part and the inertial mass part with each other.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al and Takada as applied to claims 1, 4 and 7 above, and further in view of Ushijima. Masuda et al and Takada teach structure claimed, as described above, wherein: the support member (3) has two extensions (3a, 3b) from the pivot shaft toward the catching part side and the inertial mass part side respectively; and the locking member (21) is arranged on a front side of the vehicle relative to the support member. But they fail to teach their support member having the extension, toward the inertial mass part side, shaped like the letter "J". However, Ushijima teaches a car seat comprising a catching part (7) that is coupled to a J-shaped support member (11); wherein, similar to the structure and function of the seats of Masuda et al and Takada, the support member (11) pivots about a pin shaft to move the catching part (7) upward in the event of a collision, and includes a curved end having an engagement portion which engages a locking member (12) to prevent the catching part from dropping. So it would have been obvious to one of ordinary skill in the art at the time of invention to modify the seat of Masuda et al and Takada to have the extension of the support member, between the pivot point and the inertial application means, shaped like as a "J" with the engagement portion at its curved end as a simpler alternative which comprises less parts while still yielding the predictable result of moving and locking the catching part in the event of a collision. Thus, the seat of Masuda et al and Takada as modified by Ushijima would have the one of the extensions (3b) toward the inertial mass part side substantially in a

Art Unit: 3636

form of a letter "J" when viewed from one side of the vehicle, and a curved portion at a front end of the J-form of the one of the extensions (3b) of the support member forming the engagement portion to be engaged with the locking member.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushijima in view of Takada. Ushijima teaches structure as claimed, described above, wherein the locking mechanism includes: a support member coupling the catching part and the inertial application mechanism with each other, said support including gear teeth carried thereon; and a pendular member having other gear teeth for engaging said gear teeth of said support member when brought out of a normally disengaged state therewith by the rapid deceleration, engagement of said gear teeth and said other gear teeth preventing said downward movement of the catching part. Ushijima fails to teach the car seat having an inertial mass part and the support member biased to a disengaged state. Takada teaches a car seat comprising: a catching part (5) disposed in a front part of a seat cushion and extending along its width, and arranged to move up and down via rear pivot device (7); an inertial force application means comprising an inertial mass part (12) for swinging a support member upward and therefore capable of swinging a catching part upward; and a locking means for stopping downward movement of the catching part (5) that includes a locking member (11) that engages an engagement portion formed a support member (9); wherein the support member (9) couples the catching part (5) to the inertial mass part (12); and wherein the support member (9) includes a bias which operates to maintain its normally disengaged state in the absence of a rapid

Art Unit: 3636

deceleration. So it would have been obvious to one of ordinary skill in the art at the time of invention to modify the car seat of Ushijima with an inertial mass part and a support member bias, as taught by Takada, in order to improve Ushijima's car seat with a conventional yet effective means of moving the catching part for preventing an occupant from experiencing a "submarine" effect in a collision. Thus, the car seat of Ushijima as modified by Takada would have a support member coupling the catching part and the inertial mass part with each other and the support member brought out of a normally disengaged state by a rapid deceleration against a bias which operates to maintain the normally disengaged state in the absence of said rapid deceleration.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al (JP 2000-001136) in view of Choi (US 6557935). Masuda et al teach structure claimed, as described above, but fail to teach their catching part (6) comprising a triangular cross-section. With reference to figure 1, Choi teaches a car seat comprising a catching part (20) disposed in a front part inside a seat cushion, extending in a widthwise direction of the cushion and arranged to move up and down; wherein the catching part includes a material having a triangular cross-section oriented such that a flat side of said triangular cross-section is parallel to an upper surface of the seat cushion in normal conditions. Because both Masuda et al and Choi teach car seat cushion having a forwardly disposed catching part therein that is movable up and down, it would have been obvious to one skilled in the art to substitute one catching part for

Art Unit: 3636

the other to achieve the predictable result of preventing the seat occupant from experiencing a "submarine" effect in the event of a collision.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 4, rejected under 102(b) by Taoka et al, have been considered but are moot in view of the new ground of rejection. Applicant argues that Taoka et al fails to disclose a catching part moved by an inertial force application mechanism; however, the new interpretation of Taoka et al in the rejection above indicates the embodiment of Taoka et al which meets the limitations of the catching part and inertial force application mechanism claimed.

Applicant's arguments regarding claims 2 and 3, filed 10/7/2008 have been fully considered but they are not persuasive. In response to applicant's argument that modifying reference Takada fails to teach a catching part similar to that of Taoka et al, in the rejection above the forward portion of Takada's plate (5) is interpreted as a catching part because it operates/functions to prevent an occupant from "plunging downward" at a time of rapid deceleration.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



Art Unit: 3636

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tania Abraham whose telephone number is 571-272-2635. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Dunn can be reached on 571-272-6670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. A./  
Examiner, Art Unit 3636  
February 13, 2009

/DAVID DUNN/  
Supervisory Patent Examiner, Art Unit 3636